Alabama Nurseries Implement Best Management Practices

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Nature of Work: There is continual growing concern in our society today on the environmental impact of various industries. The nursery industry is classified as a non-point pollution source. Unlike the point source pollution of many industries, which is collected and treated, non-point source pollution is controlled primarily through the adoption of practical and cost-effective best management practices (BMPs). In the early 1990's a cooperative effort among universities and the nursery industry along with the EPA and the Alabama Department of Environmental Management have addressed these concerns. Since then a site specific, menu driven BMPs manual was developed as a cooperative effort among several southern universities, reviewed extensively by the nursery industry, presented at numerous education programs and culminated in 1997 with the publishing of the Best Management Practices Guide for Producing Container-Grown Plants (1).

The purpose of this survey was to evaluate progress made by south Alabama container nurseries in implementing BMPs as well as to establish baseline data for future comparative surveys. Twenty-four container nurseries in south Alabama were surveyed during 1998. Nurseries were divided into the following categories with the percent of total acreage of each category in parentheses: small nurseries 1-10 acres (6.9%), medium nurseries 11-40 acres (19.1%) and large nurseries 40+ acres (74.0%). There were eight nurseries in each category and there was a total of 838 acres surveyed. This survey was conducted using personal interviews and a questionnaire pertaining to water quality practices at the container nurseries.

Results and Discussion: Seventy-five percent of all nurseries surveyed representing 93% of the total acreage surveyed have the capability to capture runoff water (Table 1). Installation of a collection pond as a BMP was more likely to occur with larger nurseries. Even though larger nurseries have thousands of gallons of runoff they captured 75% of the total runoff. When asked whether they recycle their runoff water 25% of the nurseries surveyed stated that they recycle up to 72% of their captured runoff water. Only 50% of the small nurseries had collection ponds probably due to space limitations; however small nurseries with collec-

tion ponds collected most of their runoff water (98%). Fifty-four percent of nurseries surveyed stated that they have a specific person devoted to water management however only 47% of those nurseries directly monitor the efficiency of their irrigation systems. Thirty-eight percent of small nurseries stated they use cyclic irrigation to reduce runoff water while none of the large nurseries were using cyclic irrigation. Failure to implement cyclic irrigation practices with the larger nurseries is probably due to the increased difficulty in managing the irrigation systems around the large labor force associated with these nurseries.
When nurseries were asked about other practices to improve runoff water quality 67% of nurseries representing 71% of acreage surveyed stated that they have installed and/or maintain grass filter/erosion strips to treat runoff water. When asked the question, "what BMPs in pesticide treatment/application have been addressed in the last three years?", many nurseries had increased practices such as: scouting for pests, using horticultural oils, applying herbicide to jammed containers and applying herbicide on a staggered basis (data not shown).

Significance to Industry: Based on the positive response of this survey, it is apparent that south Alabama nurseries are aware of the need for BMPs and are making strides toward the implementation of these practices. Most of these BMPs have been implemented during the past 10 years and are likely the result of nursery industry involvement in developing these BMPs and subsequent educational activities by universities. However it is of some concern that less than 50% of the nurseries surveyed representing only 31% of acres surveyed, monitored irrigation efficiency. In a study conducted in 1989 and 1990 nurseries were asked, "how much irrigation is applied?", growers responded that they normally watered for about 1 hour, applying about 1 inch (2.5cm h^{-1}). However when these nurseries were monitored for two years it was determined that the average amount applied was 0.6 inch (1.6 cm h^{-1}), or 40% less than most nurseries assumed they were applying (1). Due to the abundant supply of water in Alabama many nurseries have not been concerned about water-use efficiency. However proper water use is one of the most important BMPs with improper use being a major contributor of increased surface runoff from container nurseries.

Literature Cited:

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